UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/774,492	01/31/2001	Daniel J. Graney	P/12-839	3104

48226 7590 03/11/2005

ENGELHARD CORPORATION
101 WOOD AVENUE
ISELIN, NJ 08830

EXAMINER	
DICUS, TAMRA	

ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/774,492	GRANEY, DANIEL J.	
	Examiner	Art Unit	
	Tamra L. Dicus	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8, 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This Office Action is responsive to the amendment filed 12-06-04. The Double Patenting rejection is withdrawn due to Applicant's amendments. The cancellation of claim 9 is acknowledged. Due to Applicant's amendments, a new ground of rejection is presented below.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Any negative limitation or exclusionary proviso must have basis in the original disclosure. The original disclosure does not contain any mention of a backing film, nor that it is not laminated to a coextruded film as recited in amended claim 1. These new limitations do not have basis in the original disclosure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 (amended) – 4, 6 – 7, and 23 (new) are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 5,451,449 to Shetty et al. in view of USPN 5427842 to Bland et al. and further in view of USPN 3,647,612 to Schrenk et al.

The Shetty reference claims a multilayer film comprising at least 10 very thin layers of substantially uniform thickness of 30 to 500 nm, being generally parallel and of different thermoplastic resinous materials whose refractive index differ by at least 0.03 (exact range of Applicant's) at col. 3, lines 35-62 and patented claims 1-11. Regarding claims 3 and 6, Shetty teaches the refractive index is at least about 0.06. See patented claim 6. Also regarding the amount of multilayers being at least 35 in instant claims 3 and 6, see patented claim 4. Regarding claims 4 and 7, the film being a terephthalate is claimed, see patented claim 7. Regarding new claim 23, Shetty teaches PBT (polybutylene terephthalate) and PMMA (polymethyl methacrylate) are alternating layers in Example 1 in an one hundred fifteen layered film.

Shetty does not teach the multilayer film is oriented uniaxially.

Bland teaches a multilayer film that when uniaxially oriented, stiffness, modulus, and creep resistance of the film are enhanced (col. 12, lines 20-22).

It would have been obvious to one of ordinary skill in the art to modify the film of Shetty to further uniaxially orient a film because Bland teaches doing so enhances the film exhibiting improvements in stiffness, modulus and creep resistance of the film (col. 12, lines 20-22 of Bland).

The combination of Shetty and Bland do not teach the multilayer film in the form of a microfilament thread having a width of about 0.13 to 0.3 mm, or having an ultimate tensile at break of 2.5 to 9 kgf and/or 4.5 to 7 kgf (claim 2), and thickness of 0.007-0.034 mm.

Schrenk teaches an iridescent multilayered film of at least about 10 very thin layers being slit into narrow filaments by changing the die plate in an extruder in order to produce a yarn or fiber for use in textile applications. See col. 12, lines 1-28, col. 28, lines 1-10, and patented claims 1-3. See also patented claim 3 teaching the sheet is uniaxially stretched.

It would have been obvious to one of ordinary skill in the art to modify the combination of Shetty and Bland to produce a filament as claimed because Schrenk teaches a similar multilayered material slit into filaments making the filaments readily processed into attractive iridescent filaments to form yarn or fibers for textile applications (col. 12, lines 1-28, col. 28, lines 1-10, and patented claims 1-3 of Schrenk).

While Shetty, Bland, or Schrenk do not teach the ultimate tensile at break of 2.5 to 9 kgf and/or 4.5 to 7 kgf (claim 2), the combination teaches the same material, same amount of layers, same refractive index, same uniform thickness, and same structure, such property is inherently expected. One of ordinary skill in the art would expect the tensile property to be present as the same film material and thicknesses are taught.

While Shetty, Bland, or Schrenk do not teach the width requirement between 0.15 to 3mm, width is an optimizable feature as it effects the strength. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272. Absent a showing of criticality of the width, it would have been obvious to one of ordinary skill in the art to modify the combination having the recited width since it has

been held that experimental modification of the prior art in order to ascertain optimum operating conditions (e.g. slitter adjuster) fails to render Applicant's claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233.

Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 5,451,449 to Shetty et al. in view of USPN 5427842 to Bland et al. and further in view of USPN 3,647,612 to Schrenk et al., as applied to claim 1, and further in view of USPN 5,089,318 to Shetty et al. (Shetty '318).

The combination is relied upon above for instant claim 1.

Regarding claims 5 and 8, the difference between the combination and Shetty '318, is that the contiguous adjacent layer is a thermoplastic elastomer.

Shetty '318 teaches iridescent multilayer films having at least 10 very thin layers, having a refractive index of about 0.03. Incorporating an elastomer with multilayer films of PET, PBT, and PMMA is taught by Shetty '318. Shetty '318 teaches elastomers are suitable to use in coextruded, adjacent layered films with polymers such as PET, PBT, and PMMA in order to differ the refractive index, proving superior to previously known films resulting in excellent resistance to delamination among other properties. See col. 3, lines 1-15, lines 58-68, col. 5, lines 29-68, Example 1, and patented claim 1 also.

Hence it would have been obvious to one of ordinary skill in the art to modify the combination to include an elastomer as recited because Shetty '318 teaches elastomers are conventional to use in multilayer coextruded films of the same material such as PET, PMMA, and PBT in order to vary the refractive index and proves superior to previously known films

resulting in excellent resistance to delamination among other properties (col. 3, lines 1-15, lines 58-68, col. 5, lines 29-68, Example 1, and patented claim 1 also of Shetty '318).

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection. Applicant has amended the claim to recite a film not being laminated to any backing film, however, Applicant's film is co-extruded having at least 10 very thin layers, which means it has a laminated backing film and further, there is no support for this limitation in the original disclosure.

Because Applicant has amended the claim, the obviousness double patenting rejection is withdrawn.

Shetty is still used in the rejection to teach the same thickness, materials, and refractive indices. Applicant presented new claim 22, and Shetty is still used to teach the new materials. Bland is still provided to teach the use of a uniaxially oriented film. Shetty '318 is still provided to teach the use of elastomers as prior art. Schrenk is still provided to teach the use of a uniaxially oriented film formed into filaments as prior art.

Applicant does acknowledge Schrenk "indeed discloses slitting a multilayer film into threads", but argues the tensile strength not being provided by Schrenk. Applicant argues that none of the cited art discloses the claimed tensile strength. However, as set forth above, the same number of layers, thickness, materials, refractive index, and structure are provided by the cited art, such property would be inherently expected. Applicant argues that the width and thickness

are not suggested, as previously set forth, width is optimizable in absence of a showing of criticality of the recited width range.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tamra L. Dicus
Examiner
Art Unit 1774

3/3/05

RENA DYE
SUPERVISORY PATENT EXAMINER
A.U. 1774 3/5/05